Metallurgy; Collection of Articles, No. 2 SOV/3926

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Metallurgy; Collection of Articles, No. 2 SOV/3926

AVAILABLE: Library of Congress

Card 5/5

VK/rem/mas
7-25-60

SEREBRIYSKIY, E.I., inzh.; POLIN, I.V., kand.tekhn.nauk

Investigating the technology of stainless steel smetling in vacuum furnaces. Metallurgiia 2:3-22 '59. (MIRA 14:3)

(Steel, Stainless--Electrometallurgy)
(Vacuum metallurgy)

SEREBRIYSKIY, E.I., inzh.; POLIN, I.V., kand.tekhn.nauk

Developing optima conditions of stainless steel smelting in vacuum furnaces. Metallurgiia 2:22-32 '59. (MIRA 14:3)
(Steel, Stainless--Electrometallurgy)
(Vacuum metallurgy)

FOLIN, I.V., kand.tekhn.nauk

Characteristics of the burning of an electric arc in vacuum furnaces. Metallurgiia 2:188-220 '59. (MIRA 14:3)
(Electric furnaces) (Electric arc)

POLIN, I.V., kand.tekhn.nauk; KOZLOVICH, Yu.I., inzh.

Technology of the manufacture and melting of a compressed consumable electrode for the making of titanium. Metallurgiia 2:221-235 '59. (MIRA 14:3)
(Titanium alloys--Electrometallurgy)
(Electrodes)

POLIN, I.V., kand.tekhn.nauk; URT'YEV, V.P., inzh.

Technology of making titanium in vacuum furnaces. Metallurgiia 2:236-250 '59. (MIRA 14:3)
(Titanium--Electrometallurgy)
(Vacuum metallurgy)

POLIN, I.V.

PHASE I BOOK EXPLOITATION SOV/4548

Akademiya nauk SSSR. Komissiya po fiziko-khimicheskim osnovam proizvodstva stali

Primeneniye vakuuma v metallurgii (Use of Vacuum in Metallurgy) Moscow, Izd-vo AN SSSR, 1960. 334 p. Errata slip inserted. 4,500 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut metallurgii imeni A.A. Baykova. Komissiya po fiziko-khimicheskim osnovam proizvodstva stali.

Resp. Ed.: A.M. Samarin, Corresponding Member, Academy of Sciences USSR; Ed. of Publishing House: G.M. Makovskiy; Tech. Ed.: S.G. Markovich.

PURPOSE: This collection of articles is intended for technical personnel interested in recent studies and developments of vacuum steelmaking practice and equipment.

COVERAGE: The book contains information on steel melting in vacuum induction furnaces, and vacuum arc furnaces, reduction processes in vacuum, and degassing of steel and alloys. The functioning of apparatus and equipment, especially vacuum furnaces and vacuum booster pumps is also analyzed. Personalities are mentioned in connection with some of the articles and will appear in the Table of Contents. Three articles have been translated from English. Some of the

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POLIN, I.V.

PHASE I BOOK EXPLOITATION SOV/4573

Moroz, Lev Solomonovich, Doctor of Technical Sciences, Professor; Boris Borisovich Chechulin, Ivan Vasil'yevich Polin, Leonid Vladimirovich Butalov, Saveliy Moiseyevich Shul'kin, and Aleksandr Petrovich Goryachev

Titan i yego splavy, tom 1: Tekhnicheski chistyy titan (Titanium and Its Alloys, Vol. 1: Commercially Pure Titanium) Leningrad, Sudpromgiz, 1960. 515 p. Errata slip inserted. 4,200 copies printed.

Ed. (Title page): L.S. Moroz; Ed. (Inside book): Z.V. Vlasova; Tech. Ed.: N.V. Erastova.

PURPOSE: This book is intended for scientific workers, plant engineers, and students in advanced courses in schools of higher technical education and tekhnikums. It may also be used as a manual for designers and industrial engineers (with the exception of mechanical engineers).

COVERAGE: The book presents data on the structure, phase transformation, and physicochemical and processing properties of commercially pure titanium.

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Shape-casting, vacuum metallurgy, plastic deformation, welding, and soldering and brazing processes for titanium are discussed. Special attention is given to problems of constructional strength and to titanium reduction processes. L.S. Moroz wrote section 1 of Chapter 1, Chapter 2, and sections 1, 4, and 6 of Chapter 3. B.B. Chechulin wrote sections 2-6 of Chapter 1, sections 2, 3, and 5 of Chapter 3, and Chapters 4 and 9. I.V. Polin wrote Chapter 5; L.V. Butalov, Chapter 6; S.M. Shul'kin, Chapter 7; and A.P. Goryachev, Chapter 8. The authors thank A.V. Smirnov for his advice, and I.A. Bytenskiy for assistance in editing the manuscript. References accompany each chapter.

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POLI Y, I V

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PHASE I BOOK EXPLOITATION SOV/5411

Konferentsiya po fiziko-khimicheskim osnovam proizvodstva stali. 5th, Moscow, 1959.

Fiziko-khimicheskiye osnovy proizvodstva stali; trudy konferentsii (Physicochemical Bases of Steel Making; Transactions of the Fifth Conference on the Physicochemical Bases of Steelmaking) Moscow, Metallurgizdat, 1961. 512 p. Errata slip inserted. 3,700 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut metallurgii imeni A. A. Baykova.

Responsible Ed.: A. M. Samarin, Corresponding Member, Academy of Sciences USSR; Ed. of Publishing House: Ya. D. Rozentsveyg. Tech. Ed.: V. V. Mikhaylova.

Card 1/16

Physicochemical Bases of (Cont.)

PURPOSE: This collection of articles is intended for engineers and technicians of metallurgical and machine-building plants, senior students of schools of higher education, staff members of design bureaus and planning institutes, and scientific research workers.

COVERAGE: The collection contains reports presented at the fifth annual convention devoted to the review of the physicochemical bases of the steelmaking process. These reports deal with problems of the mechanism and kinetics of reactions taking place in the molten metal in steelmaking furnaces. The following are also discussed: problems involved in the production of alloyed steel, the structure of the ingot, the mechanism of solidification, and the converter steelmaking process. The articles contain conclusions drawn from the results of experimental studies, and are accompanied by references of which most are Soviet.

ACC NR: AP6031729 SOURCE CODE: UR/0136/66/000/009/0078/0080

AUTHOR: Polin, I. V.; Maksimov, V. M.; Darmogray, V. V.

ORG: none

TITLE: Results of experiments on deoxidation of titanium

SOURCE: Tsvetnyye metally, no. 9, 1966, 78-80

TOPIC TAGS: titanium alloy, titanium zirconium alloy, titanium gadolinium alloy, titanium yttrium alloy, titanium deoxidation, metal property, OXYGEN, ZIRCONIUM CONTAINING ALLOY, ALLOY COMPOSITION

ABSTRACT: The possibility of lowering the oxygen content in vacuum arc-melted titanium by alloying with zirconium, gadolinium or yttrium has been investigated. Commercial-grade titanium with addition of the above alloying elements was double melted in a vacuum of 0.012—0.1 mm Hg into 5 kg ingots 130 mm in diameter. It was found that zirconium lowers considerably the oxygen content. For instance, while unalloyed commercial-grade titanium contained 0.102% oxygen, an alloy with 1.5—2.5% Zr contained only 0.055—0.075% oxygen. Results of experiments with yttrium and gadolinium were inconclusive due to the

Card 1/2 UDC: 669.295.046.55

ACC NR: AP6031729

very small number of tests conducted. It was concluded that it is possible to deoxidize titanium by alloying it with zirconium. Orig. art. has: 3 figures and 3 tables.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 001/ OTH REF: 001

Card 2/2

L 12058-66 EWT(m)/T DS

ACC NR: AR6013856 (A,N) SOURCE CODE: UR/0276/65/000/011/G017/G017

AUTHORS: Volokhonskiy, L. A.; Novitskiy, G. S.; Polin, I. V.

TITLE: Heat produced by an electrode used in an electric vacuum arc furnace with a lining

SOURCE: Ref. zh. Tekhnologiya mashinostroyeniya, Abs. 11G140

REF SOURCE: Tr. Vses. n. i. in-ta elektroterm. oborud. vyp. 1, 1965, 77-88

TOPIC TAGS: vacuum arc furnace, electrode, heat, heat balance, ELECTRODE PROPERTY

ABSTRACT: Formulas for calculating temperature fields of a working electrode have been derived in the course of this work and were verified experimentally. It was shown that the distribution of temperatures along the cross section of an electrode may be considered uniform through the entire period of melting. During the lining melting, the axial temperature field changes only insignificantly. The established heat regime is reached over a long period of time. It would be proper to heat the electrode to increase the speed of its melting. The formulas derived may be used to calculate the heat balance during melting in the lining. 11 illustrations. Bibliography of 4 titles. [Translation of abstract]

SUB CODE: 13

Card 1/1 af UDC: 621.365.2:66.047.2.036.61

POLIN, Kh. M.

POLIN, Kh. M. "The principles of transport classification of river stretches," In the symposium: Materialy tekhn. soveshchaniy po putevym rabotam (M-vo rech. flota SSSR), Moscow, 1949, p. 112-126

SO: U-5210, 17Dec53, (Letopis 'Zhurnal 'nykh Statey, No. 25, 1949).

POLIN, Kh. M.

139. DETERMINATION OF MAXIMUM WATER FLOW OF RIVERS FOR DESIGN OF HYDRAULIC ENGINEERING STRUCTURES. Kuskov, L.S. and Polin, Kh.M. (Gidrotekh. Stroit. (Hydrotech. Constr., Moscow), 1956, (4), 25-28). Discusses the background of the present Soviet regulations stipulating a maximum design water flow based on one occurrence in 1000-10,000 years from a statistical formula based on U.S.A. conditions. Highest ever observed water flow with the year of its occurrence, and the total number of observation years, ranging from 25 to 121, are tabulated for 23 larger rivers of the Soviet Union together with the probability of the occurrence of this high water flow calculated statistically. On this basis easing of the present regulation is advocated which would lead to about 25% savings in construtional costs.

S.A.

KUSKOV, Lev Sergeyevich; BOGDANOV, A.T., retsenzent; POLIN, Kh.M., retsenzent; LAGAR'KOV, N.I., red.; DOBRONRAVOVA, S.M., red.izd-va; SALAZKOV, N.P., tekhn.red.

[Hydrological and water supply calculations in the exploitation of reservoirs] Gidrologicheskie i vodokhoziaistvennye raschety pri ekspluatatsii vodokhranilishch. Moskva, Izd-vo "Rechnoi transport," 1957. 247 p. (MIRA 11:4)
(Hydrology--Tables, calculations, etc.)

POLIN, L., kapitan dal'nego plavaniya.

Safety of ships on open roadsteads. Mor.flot 15 no.2:12-14 F '55.
(Ships) (MLRA 8:5)

POLIN, L., kapitan dal'nego plavaniya.

Bringing a vessel into seagoing condition. Mor.flot 16 no.2: 9-11 F '56. (MLRA 9:5)

1. Nachal'nik Morskoy inspektsii Chernomorskogo parokhodstva.
(Ships--Maintenance and Repair)

POLIN, L., kapitan

Unequaled expedition by Soviet seamen. Mor. flot 21 no.12:3-4 D '61. (MIRA 14:12)

(Kronstadt--Docks)
(Il'ichevsk--Docks)

POLIN, Leonid Yevgen'yevich; BUKHANOVSKIY, I.L.; ANAN'IN, V.I., redaktor; TIKHONOVA, Ye.A., tekhnicheskiy redaktor.

[Getting a ship off a sandbank without assistance] Sniatie sudna s meli bez postoronnei pomoshchi. Moskva, Izd-vo "Morskoi transport," 1954. 114 p.[Microfilm] (MLRA 8:2)
(Navigation)

POLIN, Leonid Yevgen'yevich, kapitan dal'nego plavaniya; MESHKOV, O.I., red.; USANOVA, N.B., tekhn. red.

[From the Baltic to the Black Sea; the towing of a floating dock] Baltika - Chernoe more; peregon plavuchego doka. Moskva, Izd-vo "Morskoi transport," 1963. 139 p. (MIRA 16:10)
(Floating docks) (Towing)

BUDNIKOV, Konstantin Vasil'yevich; MOSKALENKO, Ivan Fedorovich; MIRCHIN, Mark Aronovich; POLIN, Leonid Yevgen'yevich; BUKHANOVSKIY, I.L., redaktor; IVANOV, K.A., redaktor; TIKHONOVA, Ye.A., tekhnicheskiy redaktor

[Merchant seaman's manual] Uchebnoe posobie dlia matrosa morskogo flota. Izd.4-oe, ispr. i dop. Moskva, Izd-vo "Morskoi transport," 1955. 278 p. (MLRA 9:1)
(Merchant seamen--Handbooks, manuals, etc.)

POLIN, Leonid Yevgen'yevich; YASKEVICH, A.P., redaktor; DIZHUR, I.M., redaktor izdatel'stva; TIKHONOVA, Ye.A., tekhnicheskiy redaktor

[Manoeuvering in narrow places] Manevrirovanie v uzkostiakh. Moskva, Izd-vo "Morskoi transport," 1957. 179 p. (MLRA 10:10)
(Naval maneuvers)

FOLIN, Leonid Yevgen'yevich, kapitan dal'nego plavaniya

Upravlenie passage. Znan. ta pratsia no.11:23-35 N '61.
(MIRA 14:11)

(Towing)

POLIN, M.N.; FADEYEV, A.K. [Fadieiev, A.E.]

Blocking device. Khar. prom. no.2:60-61 Ap-Je '65. (MIRA 18:5)

POLIN, M.N.

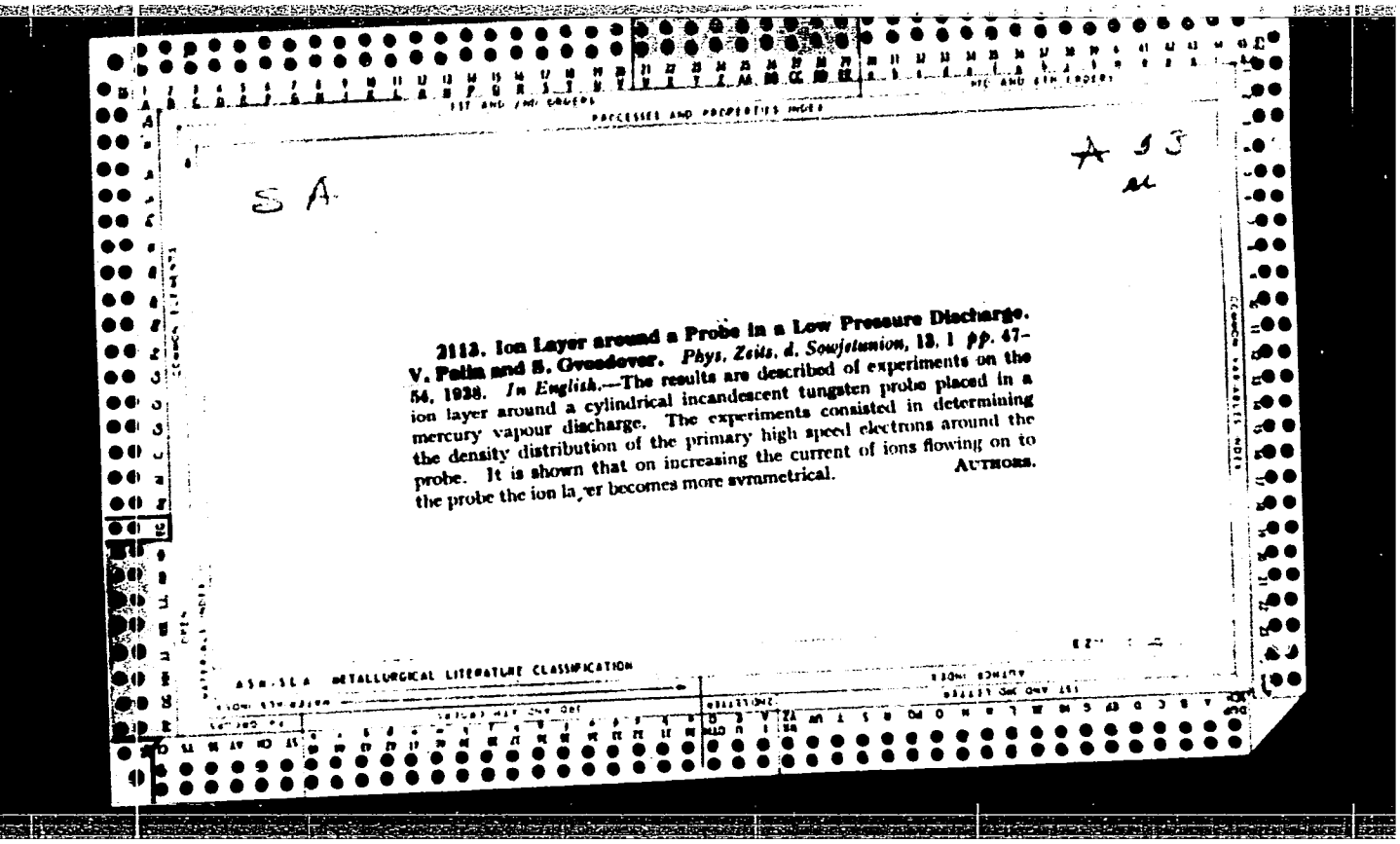
Double-cycle washing machine for three-liter glass containers.
Kons.i ov.prom. 18 no.5:6-7 My '63. (MIRA 16:4)

1. Odesskiy konservnyy kombinat.
(Glass containers—Cleaning)

POLIN, M.N.

Pneumatic squeezer. Khar.prom. no.4:47-49 O-D '62. (MIRA 16:1)

1. Odesskiy konservnyy kombinat.
(Canning industry--Equipment and supplies)

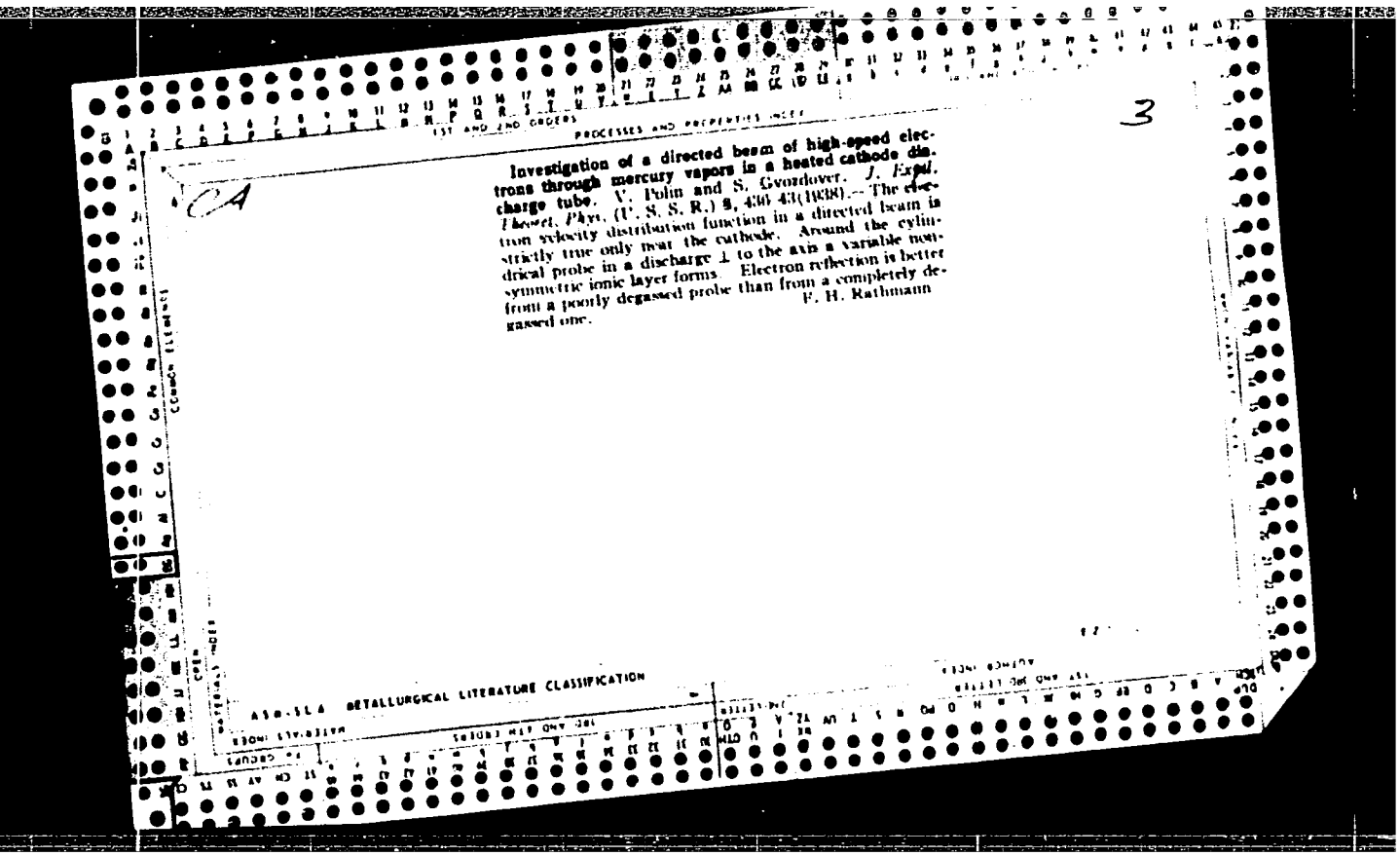


S A

A 13

2113. Ion Layer around a Probe in a Low Pressure Discharge. **V. Pelin and S. Gvozdover.** *Phys. Zeits. d. Sowjetunion*, 13, 1 *pp.* 47–54, 1938. *In English.*—The results are described of experiments on the ion layer around a cylindrical incandescent tungsten probe placed in a mercury vapour discharge. The experiments consisted in determining the density distribution of the primary high speed electrons around the probe. It is shown that on increasing the current of ions flowing on to the probe the ion layer becomes more symmetrical. AUTHORS.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



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CA

Investigation of a directed beam of high-speed electrons through mercury vapors in a heated cathode discharge tube. V. Polin and S. Gvozdover. *J. Exptl. Theoret. Phys.* (U. S. S. R.) **8**, 430-43(1938).—The electron velocity distribution function in a directed beam is strictly true only near the cathode. Around the cylindrical probe in a discharge ⊥ to the axis a variable nonsymmetric ionic layer forms. Electron reflection is better from a poorly degassed probe than from a completely degassed one.

F. H. Rathmann

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

L 38006-67 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(l)

ACC NR: AP6012119 SOURCE CODE: UR/0413/66/000/007/0033/0033

AUTHORS: Skalovoy, V. V.; Polin, Yo. L.

ORG: none

TITLE: A digital following automatic compensator for measuring voltage pulses with the filtration of interference at the output of a tensometric bridge. Class 21, No. 180258

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 7, 1966, 33

TOPIC TAGS: automatic regulation, voltage divider, pulse signal, electric measuring instrument, interference reduction, resistance bridge

ABSTRACT: This Author Certificate presents a digital following automatic compensator for measuring voltage pulses with the filtration of interference at the output of a tensometric bridge. The bridge is fed from the automatic compensator. The unit includes a pulse supply generator, a parallel type divider using resistors. The divider is switched by noncontact switches and controls the reverse trigger register, a comparison circuit, a sign trigger, and a cycle pulse generator (see Fig. 1). This design increases the response speed of the measurements and eliminates interference. The device includes rectifiers connected to the inputs of the triggers of the reverse register. Also included in the device is a multiphase multivibrator with a variable increasing output pulse duration in each of the subsequent sections. The outputs

UDC: 621.317.726

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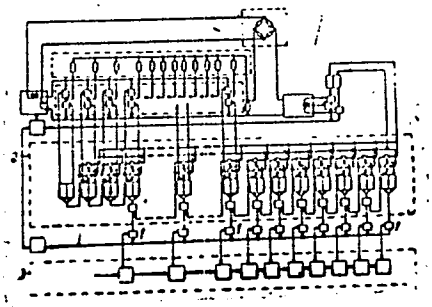
I. 08996-67

ACC NR: AP6012119 O

of these sections are connected with the inputs of the rectifiers, thereby providing a quantization inversely proportional to the following interval. The following interval increases from the start of the measurement to its end.

Fig. 1. 1 - rectifiers; 2 - reverse register; 3 - multiphase multivibrator



Orig. art. has: 1 figure.

SUB CODE: 09/ SUBM DATE: 07Apr64

MARAKUSHEV, A.A.; POLIN, Yu.K.

Gallium distribution in minerals of Archaean metamorphic rocks of the Aldan Shield. Geokhimiia no.2:181-183 '61. (MIRA 14:3)

1. Geologicheskiy institut Dal'nevostochnogo filiala Sibirskogo otdeleniya AN SSSR, Vladivostok.
(Uchru Valley—Rocks, Crystalline and metamorphic)
(Gallium) (Isomorphism)

MARKUSHEV, A.A.; POLIN, Yu.K.

Conditions determining the formation of white phlogopite in dolomitic marbles of the Aldan Shield. Geol. i geofiz. no. 8:73-81 '60. (MIRA 14:2)

1. Dal'nevostochnyy filial Sibirskogo otdeleniya AN SSSR.
(Aldan Plateau--Phlogopite)

S/007/61/000/002/003/004
B107/B217

AUTHORS: Marakushev, A. A., Polin, Yu. K.

TITLE: Gallium distribution in minerals of archaic metamorphic rocks of the Aldanskiy shield

PERIODICAL: Geokhimiya, no. 2, 1961, 181-183

TEXT: The paper presents the results of a study of the gallium distribution in minerals of metamorphic rocks. Minerals in paragenesis were used for the gallium determination, i. e., minerals which had usually formed simultaneously and under equal conditions (pressure, temperature and chemism of the medium). It is therefore presumed that the observed gallium distribution is determined only by the crystallochemical properties of the minerals themselves. The principal purpose of this work was therefore to clarify the effect of these properties on the gallium distribution. Samples from the archaic complex of the Uchur basin were used. Samples of quartz- and orthoclase-containing rocks from a series of granitized crystalline schists and orthotectites, migmatites (almandine-biotite, sillimanite, almandine-biotite-hornblende rocks, etc.), and samples of quartz-free rocks formed by

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Gallium distribution ...

the displacement of dolomitic marbles (calcifite, spinel-diopside, phlogopite, magnetite rocks, etc.) were chosen. Gallium in the minerals was simultaneously determined by fluorescence and with rhodaline; the determination was carried out by the analyst V. D. Yeremeyeva in the laboratory of the Primorskoye geologicheskoye upravleniye (Primorskiy kray Geological Direction). Results are given in Tables 1 and 2. Complete silicate analyses were carried out for minerals of extremely complicated composition, such as almandine, biotite, and hornblende (Table 3); they were conducted by the analyst Blagina in the above-mentioned laboratory. The following empirical formulas were obtained from these analyses:

almandine $(Mg_{0.96}Fe^{2+}_{1.78}Mn_{0.02}Ca_{0.13}Fe^{3+}_{0.03})\ Fe^{3+}_{0.02}Al_{1.98}[Si_{1.01}O_4]_3$,

biotite $K_{0.89}Na_{0.06}Ca_{0.02}(Mg_{0.42}Fe^{2+}_{1.76}Fe^{3+}_{0.24}Ti_{0.33}Al_{0.10})(OH,O)_2[Al_{1.20}Si_{2.80}O_{10}]$,

hornblende $Na_{0.45}K_{0.30}Ca_{1.53}(Mg_{1.27}Fe^{2+}_{2.75}Fe^{3+}_{0.78}Ti_{0.34}Al_{0.17})(OH)_2[Al_{2.06}Si_{5.94}O_{22}]$.

For further considerations, the composition of the other minerals is assumed to follow the theoretical formulas. At present, it is generally recognized

Gallium distribution ...

(Refs. 1, 3, 4) that gallium enters isomorphously into silicates for aluminum. It resembles the latter in ionic radius, (Ga^{3+} = 0.62, Al^{3+} = 0.57), in electronegativity (Ga = 1.6, Al = 1.5), and in some other properties. Therefore, it is interesting to consider the distribution of gallium and aluminum in this connection. Data are given in Table 4 for the following samples: 84 (biotite, orthoclase, hornblende), 34 A(Almandine), and 679 (muscovite). The results allow the following conclusions to be drawn: (1) Aluminum in stratified minerals (mica) is most easily replaced by gallium. These minerals are therefore gallium concentrators; this holds for other fields as well (Ref. 1). (2) Replacement largely depends on the coordination number of aluminum. Aluminum with the coordination number 4 is much more easily replaced by gallium than aluminum with the coordination number 6. The gallium/aluminum ratio in biotite having aluminum with the coordination number 4 is almost twice as high as in muscovite, where aluminum with the coordination number of 6 prevails. This peculiarity also explains the high gallium content in orthoclase compared with almandine, although orthoclase is poor in aluminum compared with almandine. This important isomorphism law of gallium is determined by its more acid properties (Refs. 2, 3,); the electronegativity of gallium is higher than that of aluminum (X_{Al} = 1.5). In this connection,

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gallium is, a link between aluminum and silicon (X = 1.8). This explains also its tendency toward entering into the "acid" silicate radicals, where aluminum replaces silicon in the oxygen tetrahedra. (3) The replacement of aluminum by gallium also takes place in oxides, e. g., in spinel, where the gallium content reaches 110 g/t (Table 2). (4) Not only aluminum but also iron is isomorphously replaced by gallium, e. g., in magnetite. Simultaneously, gallium lacks in pyrite, which is associated with gallium-containing magnetite (Table 2). This is probably due to the fact that gallium, owing to its similar valence and ionic radius, replaces mainly trivalent iron. [Abstractor's note: Complete translation]. There are 4 tables and 4 references: 2 Soviet-bloc. The two references to English-language publications read as follows: Ref. 3: W. S. Fyfe. Amer. Miner., 36, 7/8, 1951. Ref. 4: V. M. Goldschmidt, "Geochemistry", Oxford, Clarendon Press, 1954.

ASSOCIATION: Geologicheskiy institut Dal'nevostochnogo filiala Sibirskogo otdeleniya AN SSSR, Vladivostok (Geological Institute of the Soviet Far East Branch of the Academy of Sciences USSR, Vladivostok)

LENNIKOV, A.M.; POLIN, Yu.K.; LEBEDEV, Yu.A.

Some results of using the decrepitation method. Sbor.DVFAN SSSR no.12:25-30 '60. (MIRA 13:11)

1. Dal'nevostochnyy filial imeni V.L.Komarova Sibirskogo otdeleniya AN SSSR.
(Heat of formation) (Minerals)

MARAKUSHEV, A.A.; POLIN, Yu.K.

Eclogitic crystalline schists in Pre-Cambrian metamorphic complexes and conditions governing their formation. Geol.i geofiz. no.1:3-20 '62. (MIRA 15:4)

1. Geologicheskiy institut Dal'nevostochnogo filiala Sibirskogo otdeleniya AN SSSR, Vladivostok.
(Aldan Plateau--Eclogite) (Korea, North--Eclogite)

DEMENT'YEV, S.K.; POLINA, T.V.

Broadening of the range of parametric oscillations by means of a transient process. Vych. sist. no.2:37-42 '62.
(MIRA 18:2)

DEMENT'YEV, S.K.; LITVINCHUK, V.I.; POLINA, T.V.; TOLMACHEVA, L.F.

Experimental study of the areas of oscillation in a paramatron using a magnetic film. Vych. sist. no.2:52-57 '62. (MIRA 18:2)

L 19324-63 EWP(q)/EWT(m)/BDS AFFTC/ASD JD S/0271/63/000/007/B037/B037

ACCESSION NR: AR3005871

SOURCE: RZh. Avtomatika, telemekhanika i vy*chislitol'naya tekhnika, Abs. 7 B190

AUTHOR: Dement'yev, S. K.; Litvinchuk, V. I.; Polina, T. V.; Tolmacheva, R. F.

TITLE: An experimental investigation of oscillating regions in a magnetic film parametron

CITED SOURCE: Sb. Vy*chisl. sistemy*. Vy*p. 2. Novosibirsk, 1962, 52-57

TOPIC TAGS: parametron, computer component

TRANSLATION: The parametrons investigated here consisted of a circular Permalloy film with a diameter of 1 cm deposited on a glass base layer with dimensions 18 x 18 x 0.1 mm; a one-layer inductive winding (10 turns of 0.09 mm wire) wound on a frame with a cross section of 35 x 1.4 mm; also a capacitor with a capacitance of 2100 micro-microfarads. The parametrons were placed in a cavity between two buses which set up the inductance of the power supply circuit; the circuit was adjusted to resonance by means of the capacitor. The permanent and variable magnetic fields set up by corresponding currents in the power buses were directed along the axis of easy magnetization of the films. In the experiments the parametron film was

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ACCESSION NR: AR3005871

subjected to the action of a variable field with a frequency of 2f = 4.8 mc, the amplitude of which was modulated by a frequency of 50 cps. The value of the permanent field acting on the film along with the variable field could be changed. A total of 27 films were studied; 24 films with thickness somewhat greater than 1500 A produced parametric oscillations with frequency f. As shown by results from measurements, oscillations existed when there were changes in the amplitude of the variable field of ± 20% as compared with the average value, and when there were changes of ± 45% in the permanent field; a noticeable decrease in parametric oscillating regions occurred with a change of 6% in the power frequency from the resonance frequency corresponding to the maximum oscillating region. There are six illustrations. G. V.

DATE ACQ: 15Aug63 SUB CODE: GE, CP ENCL: 00

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LINKUN, N.; POLINA, V.

Improving the material incentive system for state-farm workers. Vop. ekon. no.2:138-143 F '64. (MIRA 17:3)

POLINA, Valentina Ivanovna, kand. ekon. nauk; SHULEYKIN, P.A., red.

[Labor and wages] Trud i ego oplata. Moskva, Izd-vo "Znanie," 1965. 85 p. (Narodnyi universitet: Sel'skokhoziaistvennyi fakul'tet, no.6) (MIRA 18:8)

POLINCZKY, K.; HALASZY, J.

Chemical laboratories, II. p. 261.
Examination of the structure of proteins; remarks by Ferenc Guba and others. p. 265. Vol. 11, No. 9 Sept. 1956. MAGYAR KEMIKUSOK LAPJA. Budapest Hungary.

SOURCE: East European List, (EEAL) Library of Congress Vol. 6, No. 1 Januaru 1956.

POLING, Laynus [Pauling, L.], prof. (SShA); Redaktor perevoda: TEMKIN, M.I.

Theory of resonance in chemistry. Zhur. VKHO 7 no.4:462-467 '62. (MIRA 15:8)

(Mesomerism)

POLINGER, A.

TECHNOLOGY

Periodical: REVISTA INDUSTRIEI ALIMENTARE. PRODUSE VEGETALE. No. 4, 1958.

POLINGER, A. Great possiblilities in the school year 1958/59 for young people qualified for professions used in subdivisions of the consumer-goods industry. p. 16.

Monthly List of East European Accession (EEAI) LC, Vol. 8, no. 3
March 1959 Unclass.

POLINIK, N.M.

New arrangements for the bottom of a drilling tool to prevent crooked holes. Neft. i gaz. prom. no.4:34-36 O-D '63.
(MIRA 17:12)

1. Trest "Prikarpatbu:neft'".

ROZENGART, M.I.; POLKOVNIKOV, B.D.; POLININ, V.L.; TABER, A.M.; GITIS, K.M.

Aromatizing capacity of boride catalysts of platinum group metals.
Izv. AN SSSR. Ser. khim. no.5:919-922 '65. (MIRA 18:5)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.

VITT, S.V.; BONDAREV, V.B.; POLININ, V.L.

Separation of close-boiling mixtures on a capillary chromatograph with flame-ionization detection. Izv. AN SSSR. Ser. Khim. no.7: 1145-1150 Jl '64. (MIRA 17:8)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

VITT, S.V.; BONDAREV, V.B.; POLININ, V.L.; ROZENGART, M.I.

Determination of xylene isomers in complex hydrocarbon mixtures by capillary gas-liquid chromatography. Izv. AN SSSR. Ser. khim. no.11:2043-2045 N '63. (MIRA 17:1)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo AN SSSR.

POLINKEVICH, V.V.; LEBEDEV, G.N.

New shuttle box swell. Tekst.prom. 20 no.8:33-34 Ag '60.
(MIRA 13:9)
(Looms)

POLINKOVSKAYA

(6)

Silica glass tank blocks. Walther Lichn. *Silikattech.* 5, 87(1954); cf. Polinkovskaya and Taitskaya, *Steklo i Keramika* 9, No. 6, 9-10(1952).—In the Chagodoshchensk Glass Works, expts. have been performed with fused silica glass tank blocks from the Druzhnaya Gorka Works, which have been exposed to heavy duty in the burners of a glass tank. The accuracy in shape of the blocks was rather poor, with ±1 cm. tolerance. The burners had wall temps. of 1435 to 1460°. In one burner after 89 days of service a total renewal was necessary, in a second burner renewal was necessary after 129 days. The blocks were adversely affected by corrosion and fusion on the surface, especially starting from cavities of the cast blocks. Evidently, the inferior production methods are responsible for this result. A layer of sintered sand on the surface of the blocks cracked and scaled off because of the entirely different thermal expansion properties, especially from the joints and corners, thus opening the way for strong corrsion. The silica glass of the inner parts of the blocks had a n 1.458 ± 0.003, interspersed with gas bubbles and coal particles. After service the glass was changed to a depth of 2-3 mm. to a white layer with large crystals of tridymite, and a reaction glass with n = 1.485 had formed. Especially Na_2O from batch dust particles had penetrated the surface layer of corrosion. Other expts. in the Gorki Works with silica glass blocks built in the walls of the tank had very similar results; the same corrosion phenomena on joints and from cavities were observed. The borosilicate glass molten in the tank was not changed in its quality by soln. of the blocks, and also no stones or cords were observed. W. Eitel

10-12-54

MEC

POLINKOWSKA, A.

Taslicka, M.; Polinkowska, A.

"The use of silicates as fireproof material for the manufacture of bathtubs. Tr. from the Russian", p. 43 (Szkle I Ceramika. Vol. 4, no. 2, Feb. 1953, Warszawa)

SO: Monthly List of East European Accessions, Vol. 3, No. 3, Library of Congress, March 1954, Uncl.

PENSIYANOV, A., inzh.; FARBER, B., inzh.; POLINKOVSKAYA, A., kand.tekhn.nauk

The quality of keramzit "sand" is improving. Na stroi. Ros. 3 no.2: 26-27 F '62. (MIRA 16:2)

(Keramzit)

PETROV, V.P., doktor geologo-mineralogicheskikh nauk; NASEDKIN, V.V., inzh.pgeolog; POLINKOVSKAYA, A.I., kand. tekhn. nauk

Distribution of perlites on the territory of the U.S.S.R.; their geological characteristics and technological properties. Sbor. trud. ROSNIIMS no.25:6-18 '62 (MIRA 17:8)

POLINKOVSKAYA, A.I., kand. tekhn. nauk; CHERNOVA, O.A., inzh.; ABRAMOV, I.Ya., inzh.

Producing expanded perlite in furnaces with fluidized beds.
Sbor trud. ROSNIIMS no.25:62-71 '62 (MIRA 17:8)

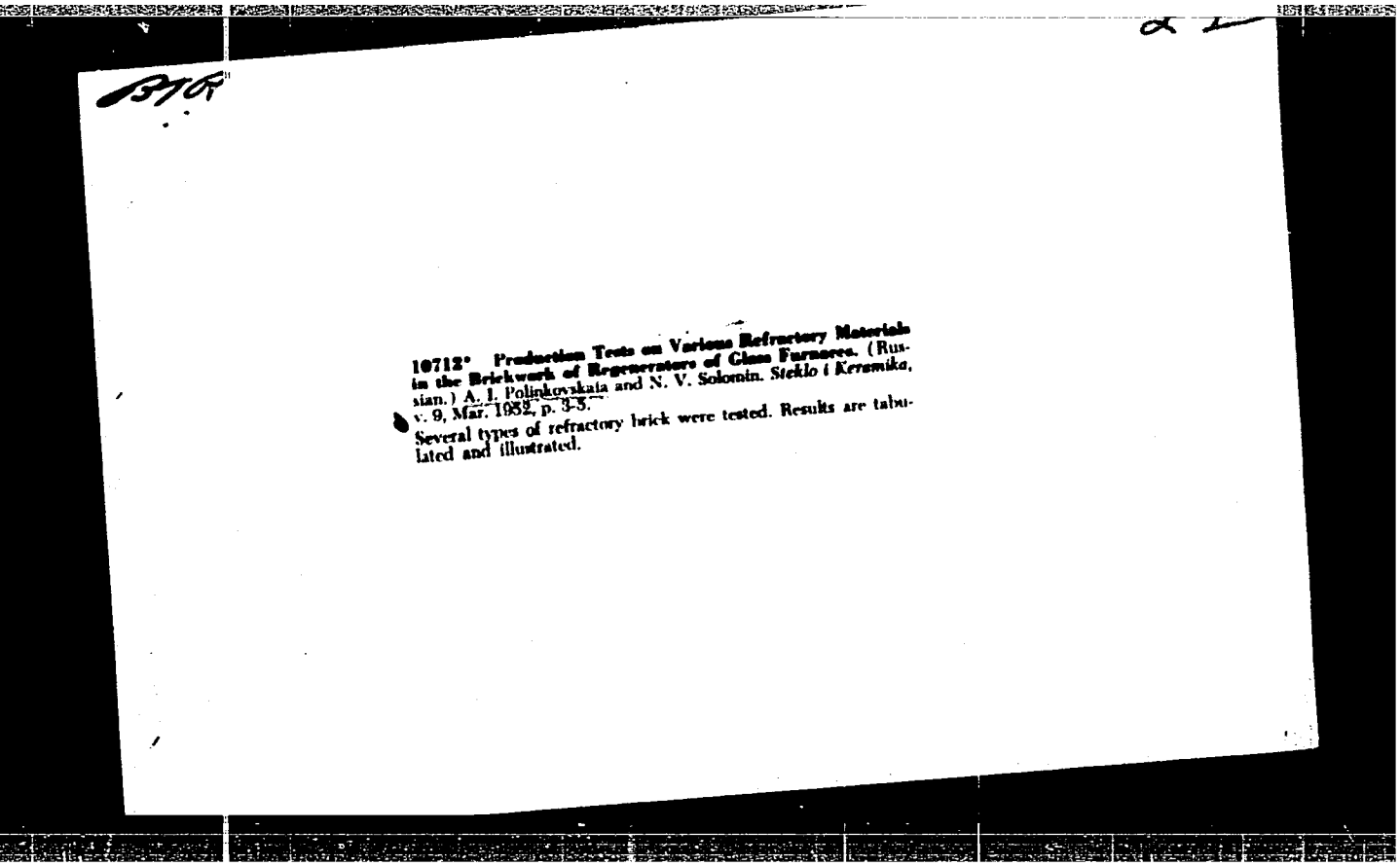
POLINKOVSKAYA, A.I., kand. tekhn. nauk; MANUYLOVA, N.S., kand. khim. nauk; SERGEYEV, N.I., inzh.

Service life of the linings of rotary kilns for expanded perlite. Sbor. trud. ROSNIIMS no.25:105-119 '62
(MIRA 17:8)

VOLAROVICH, M.P.; POLINKOVSKAYA, A.I.; YAVITS, I.N.

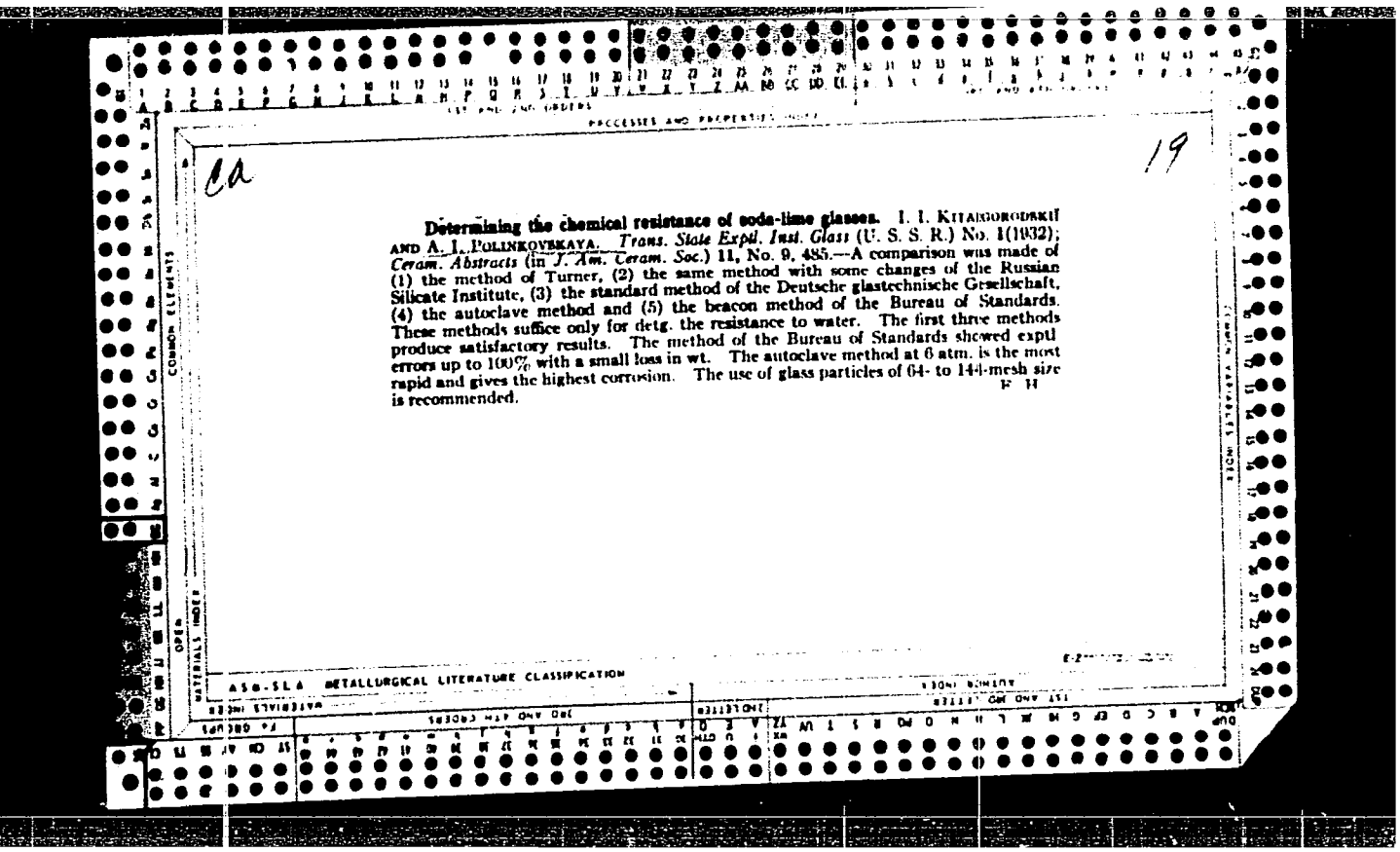
Blistering of water-containing vulcanic glasses (perlites) studied by motion-picture photography. Koll.zhur. 25 no.5:512-514 S-O '63. (MIRA 16:10)

1. Respublikanskiy nauchno-issledovatel'skiy institut novykh stroitel'nykh materialov, Moskva.



10712* Production Tests on Various Refractory Materials in the Brickwork of Regenerators of Glass Furnaces. (Russian.) A. I. Polinkovskaia and N. V. Solomin. *Steklo i Keramika*, v. 9, Mar. 1952, p. 3-5.

Several types of refractory brick were tested. Results are tabulated and illustrated.

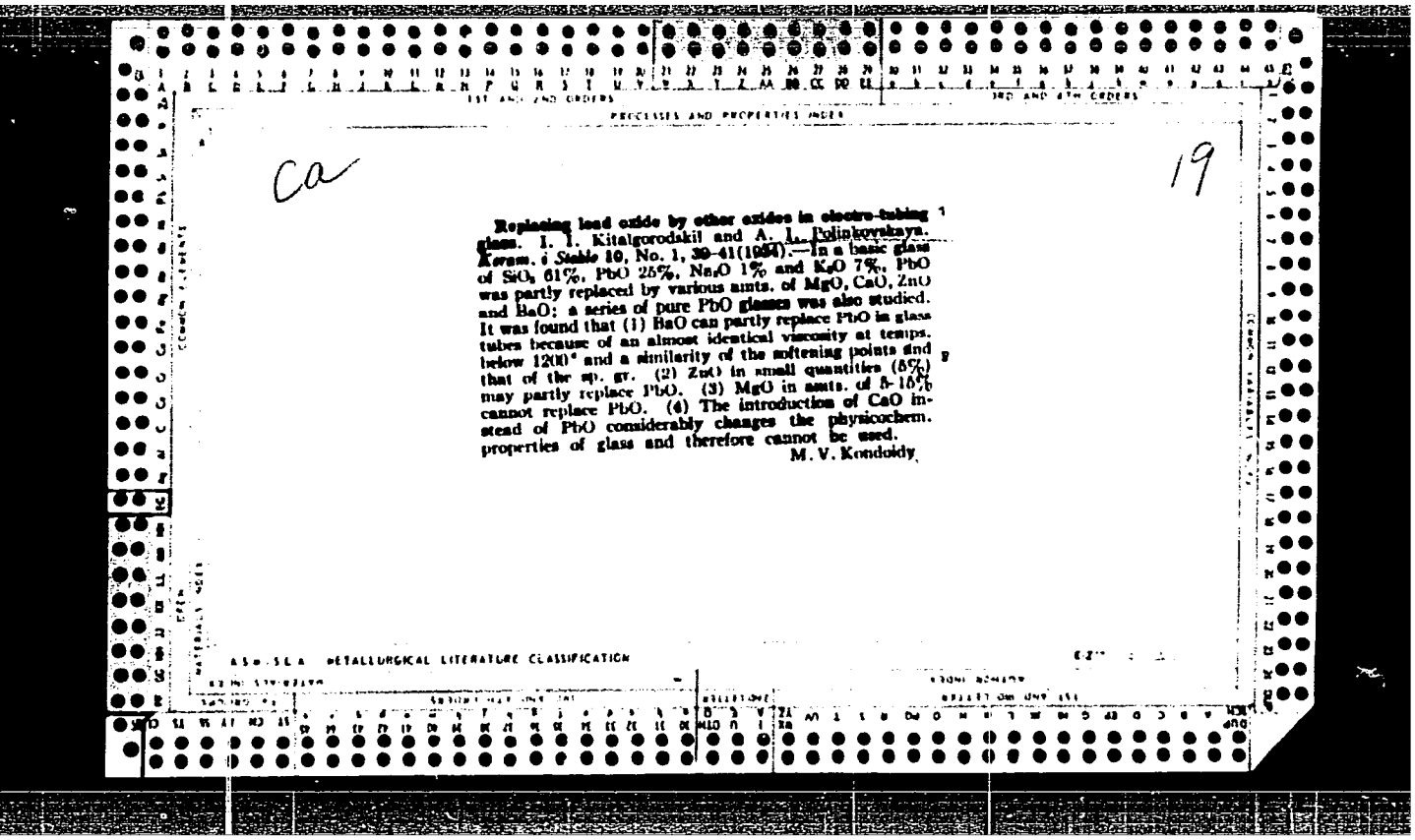


12a

19

Determining the chemical resistance of soda-lime glasses. I. I. KITAIGORODSKII AND A. I. POLINKOVSKAYA. *Trans. State Expil. Inst. Glass* (U. S. S. R.) No. 1(1932); *Ceram. Abstracts* (in *J. Am. Ceram. Soc.*) 11, No. 9, 485.—A comparison was made of (1) the method of Turner, (2) the same method with some changes of the Russian Silicate Institute, (3) the standard method of the Deutsche glastechnische Gesellschaft, (4) the autoclave method and (5) the beacon method of the Bureau of Standards. These methods suffice only for detg. the resistance to water. The first three methods produce satisfactory results. The method of the Bureau of Standards showed exptl errors up to 100% with a small loss in wt. The autoclave method at 6 atm. is the most rapid and gives the highest corrosion. The use of glass particles of 64- to 144-mesh size is recommended.

F. H.



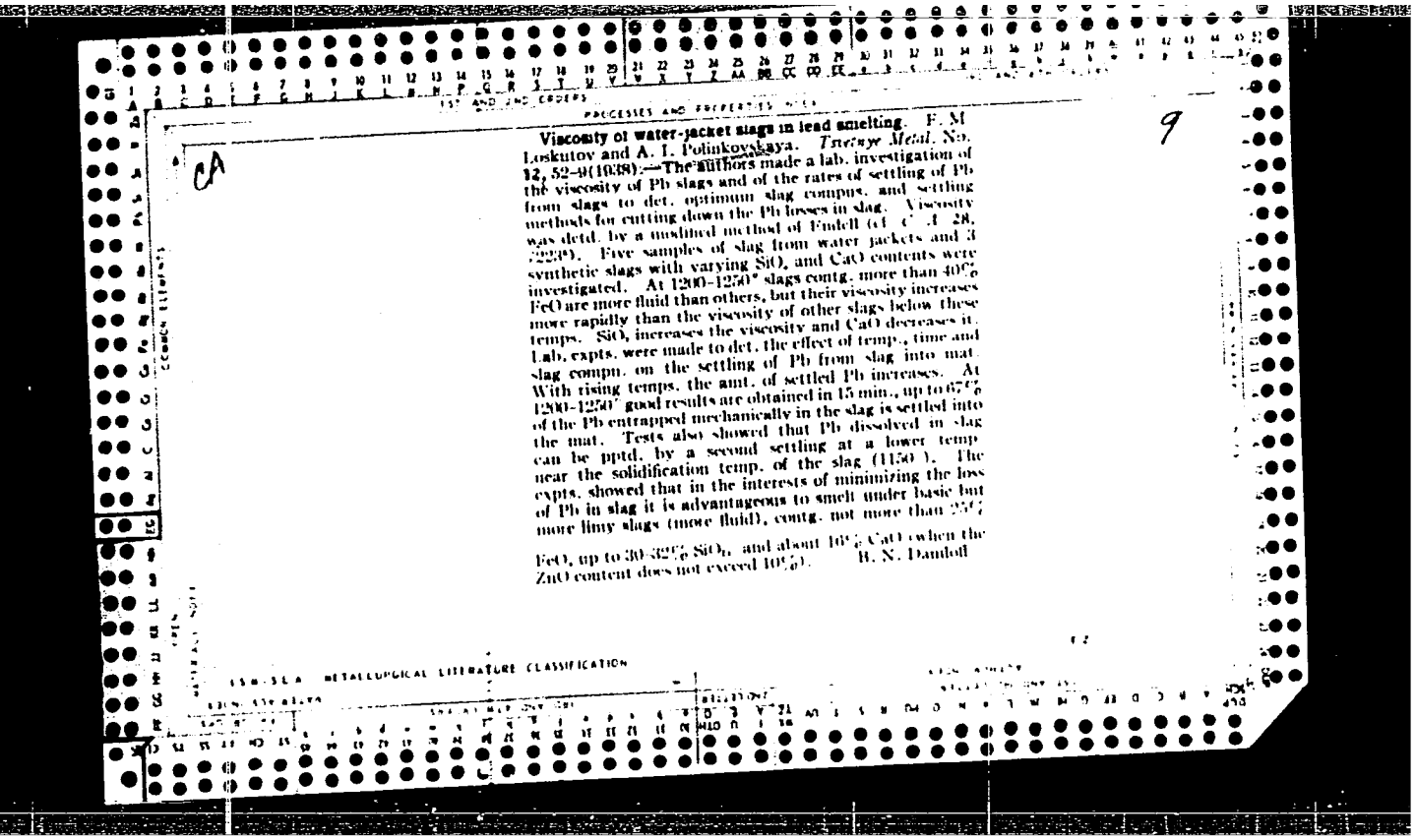
Ca

19

Replacing lead oxide by other oxides in electro-tubing glass. I. L. Kitalgorodskii and A. L. Polinkovskaya. *Kvasn. i Stekło* 10, No. 1, 39-41(1954).—In a basic glass of SiO_2 61%, PbO 25%, Na_2O 1% and K_2O 7%, PbO was partly replaced by various amts. of MgO, CaO, ZnO and BaO; a series of pure PbO glasses was also studied. It was found that (1) BaO can partly replace PbO in glass tubes because of an almost identical viscosity at temps. below 1200° and a similarity of the softening points and that of the sp. gr. (2) ZnO in small quantities (5%) may partly replace PbO. (3) MgO in amts. of 5-10% cannot replace PbO. (4) The introduction of CaO instead of PbO considerably changes the physicochem. properties of glass and therefore cannot be used.

M. V. Kondoidy

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Viscosity of water-jacket slags in lead smelting. F. M. Loskutov and A. I. Polinkovskaya. *Tsvetnye Metal.* No. 12, 52–9(1938).—The authors made a lab. investigation of the viscosity of Pb slags and of the rates of settling of Pb from slags to det. optimum slag compns. and settling methods for cutting down the Pb losses in slag. Viscosity was detd. by a modified method of Endell (cf. *C. A.* 28, 2228). Five samples of slag from water jackets and 3 synthetic slags with varying SiO_2 and CaO contents were investigated. At 1200–1250° slags contg. more than 40% FeO are more fluid than others, but their viscosity increases more rapidly than the viscosity of other slags below these temps. SiO_2 increases the viscosity and CaO decreases it. Lab. expts. were made to det. the effect of temp., time and slag compn. on the settling of Pb from slag into mat. With rising temps. the amt. of settled Pb increases. At 1200–1250° good results are obtained in 15 min., up to 67% of the Pb entrapped mechanically in the slag is settled into the mat. Tests also showed that Pb dissolved in slag can be ppted. by a second settling at a lower temp. near the solidification temp. of the slag (1150°). The expts. showed that in the interests of minimizing the loss of Pb in slag it is advantageous to smelt under basic but more limy slags (more fluid), contg. not more than 25% FeO, up to 30–32% SiO_2, and about 10% CaO (when the ZnO content does not exceed 10%). B. N. Dambol

POLYNKOVSKAYA, A.I., kand.tekhn.nauk; STRIZHEVSKIY, M.V.

Mastering the production of expanded perlite. Sbor.trud. ROSNIIMS no.19:66-74 '61. (MIRA 16:1)

1. Glavnyy inzh. tresta "Irkutskalyuminstroy".
(Perlite (Mineral))

BUDNIKOV, P.P.; VOLAROVICH, M.P.; POLINKOVSKAYA, A.I.; YAVITS, I.N.

Study of the character of the expansion of some types of volcanic, hydrated glass by means of motion-picture filming. Stroi.mat. 9 no.3:31-33 Mr '63. (MIRA 16:4)
(Perlite (Mineral)) (Motion-picture photography)

POLYAKOVSKAYA, A.I., kand.tekhn.nauk; BENUNI, A.A., kand.tekhn.nauk; PETRIKHINA, G.A., inzh.

The problem of the technology of obtaining keramzit, "sand." (MIRA 16:1)
Sbor.trud.ROSNIIMS no.19:113-127 '61.
(Keramzit)

POLINKOVSKAYA, A. I.

USSR/Refractory Materials

Aug 1947

"'Steklokorund' -- A New High Refractory Material," Prof I. I. Kitaygorodskiy, N. V. Solomin, A. I. Polinkovskaya, S. F. Volchanov, 2 pp

"Legkaya Promyshlennost'" Vol VII, No 8

Technical description of new refractory material (steklokorund) including properties of the material, ingredients, etc.

PA 18T26

POLINKOVSKAYA, A. I.

"Glass Corundum," Ogneupory, No. 1, 1948.

POLINKOVSKAYA, A. I.

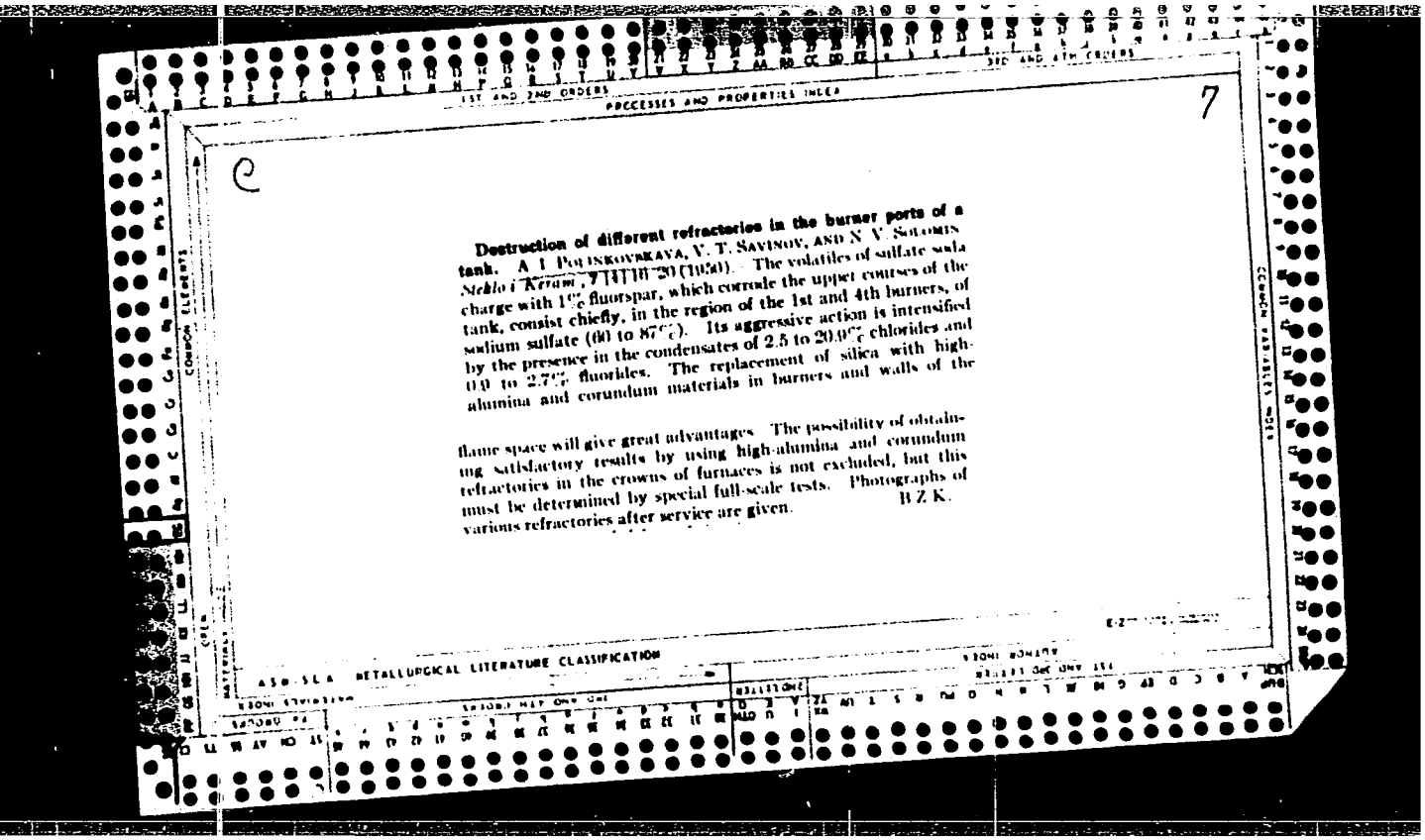
Glass corundum. I. I. KITAĬGORODSKIĬ, N. V. SOLOMIN, A. I. POLINKOVSKAYA, AND S. F. VOLCHANOV. Ogneupory, 13 [1] 22-25 (1948).- In the laboratory, technical alumina was mixed with 1% ZnO and fired to 1450°C. to insure maximum transformation of γ-alumina to α-alumina prior to mixing the charge. Organic binder (not specified) and water were added to the charge in amounts required for semidry ramming (hand and pneumatic), and the bars were fired at 1460° to 1590°. For comparison, bars were prepared from 77% Chasov Yar clay grog and 23% Chasov Yar binding clay. Compared with the multigrog product, the glass corundum had a firing shrinkage 7 to 8 times as large, an apparent porosity 2 to 3 times as large, and a resistance to sulfate liquors 12 to 23 times as great. Sulfite-cellulose extract is recommended as a plasticizer because of its slow decomposition within a wide temperature range. The firing shrinkage was considerably improved by firing a portion of the charge in the form of briquettes, grinding the briquettes, and adding the glass-cement grog in amounts of 50 to 86% to the original charge. On a commercial scale, use was made of technical alumina analyzing not less than 97.3% Al_2O_3, not over 0.4% SiO_2, not over 0.06% Fe_2O_3, not over 0.7% Na_2O, and ignition loss about 1.5%. As a glass binder, cullet of ordinary composition was used. Bars were prepared by pneumatic ramming. Air shrinkage was less than 1%. Products were fired for ten days and held for 24 hr. at a maximum temperature of 1500° to 1520°C. The properties were better than those of laboratory specimens; bulk specific gravity was 3.05, and apparent porosity was about 14%. B.Z.K.

POLITKOVSKAYA, A. I.

21811 SOLOMIN, N. V. i POLITKOVSKAYA, A. I.

Ostat'ye prof. V. V. Goncharova ("O steklokeramike kak ogneupornom materiale". Zhurn. "Ogneupory", 1949, N . 4.) Ogneupory, 1949, No. 6, s. 292.

SO: Letopis' Zhurnal'nykh Statey, No. 29, Moskva, 1949

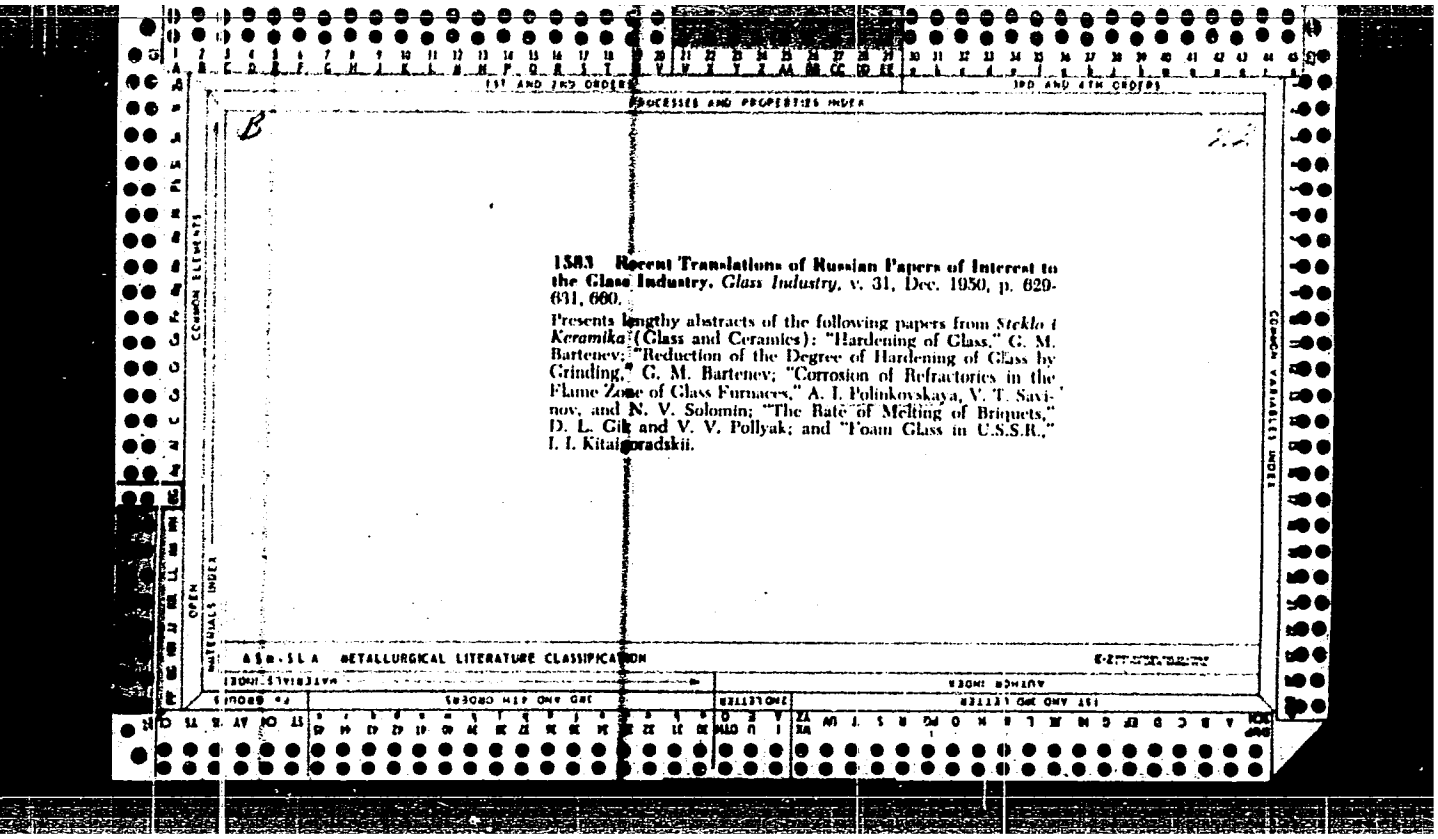


PROCESSES AND PROPERTIES INDEX

7

Destruction of different refractories in the burner ports of a tank. A. I. Polinkovskaya, V. T. Savinov, and N. V. Solomin. *Steklo i Keram.*, 7 [1] 18–20 (1950). The volatiles of sulfate salt charge with 1% fluorspar, which corrode the upper courses of the tank, consist chiefly, in the region of the 1st and 4th burners, of sodium sulfate (60 to 87%). Its aggressive action is intensified by the presence in the condensates of 2.5 to 20.0% chlorides and 0.9 to 2.7% fluorides. The replacement of silica with high-alumina and corundum materials in burners and walls of the flame space will give great advantages. The possibility of obtaining satisfactory results by using high-alumina and corundum refractories in the crowns of furnaces is not excluded, but this must be determined by special full-scale tests. Photographs of various refractories after service are given. B Z K.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



1583 **Recent Translations of Russian Papers of Interest to the Glass Industry.** *Glass Industry*, v. 31, Dec. 1950, p. 629-631, 660.

Presents lengthy abstracts of the following papers from *Steklo i Keramika* (Glass and Ceramics): "Hardening of Glass," G. M. Bartenev; "Reduction of the Degree of Hardening of Glass by Grinding," G. M. Bartenev; "Corrosion of Refractories in the Flame Zone of Glass Furnaces," A. I. Polinkovskaya, V. T. Savinov, and N. V. Solomin; "The Rate of Melting of Briquets," D. L. Gil' and V. V. Pollyak; and "Foam Glass in U.S.S.R.," I. I. Kitaigorodskii.

11

C.A.

Destruction of different refractories in the burner ports of a tank. A. I. Polinkovskaya, V. T. Savinov, and N. V. Sokonin. *Steklo i Keram.* 7, No. 4, 16-20(1950).—The volatiles of sulfate-soda ash charge with 1% fluorspar, which corrode the upper courses of the tank, consist, in the region of the 1st and 4th burners, chiefly of Na_2SO_4 (60–87%). The aggressive action of the latter is intensified by the presence in the condensates of 2.8–20.0% chlorides and 0.0–2.7% fluorides. Replacement of SiO_2 with high-Al_2O_3 and corundum materials in the burners and walls of the flame space will give great advantage. The possibility of obtaining satisfactory results by using high-Al_2O_3 and corundum refractories in the crowns of furnaces is not excluded, but this must be detd. by special full-scale tests. Photographs show various refractories after service.

B. Z. Kamich

POLINKOVSKAYA, A. I.; SOLOVIN, N. V.

Fire-Brick

Industrial testing of various refractory materials in the regenerator chekerwork of a tank glass melting furnace., Stek. i ker., 9, no. 3, 1952.

Monthly List of Russian Accessions, Library of Congress, May 1952. UNCLASSIFIED.

POLINKOVSKAYA, A. I., TASLITSKAYA, M. G.

Refractory Materials.

Performance of quartz glass blocks, Stek. i ker., 9, no. 6, 1952.

9. Monthly List of Russian Accessions, Library of Congress, October 1952? Uncl.

POLINKOVSKAYA (6)

Silica glass tank blocks. Walther Lichn. *Silikattech.* 5, 87(1954); cf. Polinkovskaya and Talitskaya, *Steklo i Keramika* 9, No. 6, 9–10(1952).—In the Chagodoshchenskoi Glass Works, expts. have been performed with fused silica glass tank blocks from the Druzhnaya Gorka Works, which have been exposed to heavy duty in the burners of a glass tank. The accuracy in shape of the blocks was rather poor, with ±1 cm. tolerance. The burners had wall temps. of 1435 to 1460°. In one burner after 89 days of service a total renewal was necessary, in a second burner renewal was necessary after 129 days. The blocks were adversely affected by corrosion and fusion on the surface, especially starting from cavities of the cast blocks. Evidently, the inferior production methods are responsible for this result. A layer of sintered sand on the surface of the blocks cracked and scaled off because of the entirely different thermal expansion properties, especially from the joints and corners, thus opening the way for strong corrsion. The silica glass of the inner parts of the blocks had a n 1.458 ± 0.003, interspersed with gas bubbles and coal particles. After service the glass was changed to a depth of 2-3 mm. to a white layer with large crystals of tridymite, and a reaction glass with n = 1.485 had formed. Especially Na_2O from batch dust particles had penetrated the surface layer of corrosion. Other expts. in the Gorki Works with silica glass blocks built in the walls of the tank had very similar results; the same corrosion phenomena on joints and from cavities were observed. The borosilicate glass molten in the tank was not changed in its quality by soln. of the blocks, and also no stones or cords were observed. W. Eitel

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POLINKOVSKAYA, A. I.

J. of Am Ce. Soc.
I Feb. 1954
Refractories

Changes in microstructure of fused quartz blocks during service in glass tanks. B. V. IVANOV AND A. I. POLINKOVSKAYA. *Doklady Akad. Nauk SSSR*, 85 [6] 1365–68 (1952). Blocks were taken from the wall of the melter and from the arch of the burner inlet of furnaces melting window and alkaline borosilicate glasses. In blocks from the arch, transformation into tridymite occurred, and in blocks from the wall, metacristobalite was observed with only a small amount of tridymite. A thin service zone was formed on the blocks; this zone did not retain the penetrating oxides from the furnace space. Low-melting glasses probably form during service, and these run off or are washed off the blocks. Cf. *Ceram. Abstr.*, 1953, Nov., p. 190g. B.Z.K.

MF 7-13-54

IVANOV, B.V.; POLINKOVSKAYA, A.I.

Changes in microstructure of fused quartz blocks during service in glassmelting tanks. Doklady Akad. Nauk S.S.S.R. 85, 1365-8 '52. (MLRA 5:9)
(CA 48 no.1:338 '54)

Polinkovskaya, A.I.

15

Changes in kaolin blocks during service in glassmelting tanks. A. I. POLINKOVSKAYA, B. V. IVANOV, AND F. A. ORLOVA. *Ogneupory*, 20 [8] 353-61 (1955).—Kaolin blocks used in tanks for melting sulfate-soda charges for window glass have better thermomechanical characteristics than fire-clay blocks. Kaolin blocks are corroded more uniformly than electrofused mullite and fire-clay blocks. In the upper row of walls in large tanks the kaolin blocks acquire a zonal structure, a thick unchanged zone and a reaction zone, very dense, porcelainlike, and 2 to 4 mm. thick. The latter is usually covered with a "glaze" layer 1 to 3 mm. thick, which is a crystalline intermediate layer of glass. Chemically, this porcelainlike zone is the hot portion of the refractory enriched with alkali from the glassmelt. The glaze is a practically pure three-component glass, falling in the field of corundum in the ternary system Na_2O-Al_2O_3-SiO_2. 6 figures, 11 references. B.Z.K.

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Vsesoyoznyy nauchno-issledovatel'skiy institut stekla; 2. Institut geologicheskikh nauk AN SSR; 3. Lisichanskiy stekolnyy zavod.

AUTHORS: Ivanov, B. V., Polinkovskaya, A. I. SOV/ 131-58-7-5/14

TITLE: On the Performance of Refractories of High Clay Content in the Crown of the Regenerator of a Glass Furnace (O sluzhbe vysokoglinozemistogo ogneupora v nasadke regeneratora steklovarennoy pechi)

PERIODICAL: Ogneupory, 1958, Nr 7, pp 307 - 312 (USSR)

ABSTRACT: At the Lisichansk glass factory an experiment with a small charge of bricks of high clay content for crowns was carried out. These bricks were produced in the factory and broken bricks of 65.8-69.5% Al_2O_3 content were used in the place of chamotte. 25% clay of the Druzhkovskoye deposit was introduced as a binder. The finished brick of a size of 250 x 120 x 65 mm contained 60-62% Al_2O_3 on the average, had a volume weight of 2.38 g/cm^3 and an apparent porosity of 19.2%. These bricks were tested in the crown of the regenerator of the shift furnace "Dupleks" (Fig 1). The bricks containing a high percentage of clay (Fig 2) and the chamotte bricks (Fig 3) were investigated after the furnace run, the former showing much less wear. Another 5 bricks of the crown were investigated and described in detail. Figure 4

Card 1/3

On the Performance of Refractories of [illegible] Clay Conte... 307/131-58-7-5/14
in the Crown of the Regenerator of a Glass

shows the contact of the hot porcelain-type zone with the reaction crust of a brick of high clay content. The chemical analyses of the individual zones of these bricks after their working in the crown are shown in the table. Figure 5 shows the contact of three layers of the reaction crust of the second sample, and figure 6 shows its microstructure. Conclusions:
1.- The refractories with a high clay content are less corroded in the crown of the regenerators of a shift furnace than those made of chamotte.
2.- The swelling of the bricks in single cases as well as the splintering off of their surfaces are to be considered negative phenomena.
3.- The experimental material at hand is assumed to be insufficient to draw final conclusions from it. It is recommended to carry out further experiments. There are 6 figures, 1 table, and 6 references, 3 of which are Soviet.

Card 2/3

On the Performance of Refractories of High Clay Content in the Crown of the Regenerator of an Glass Furnace SOV/131-58-7-5/14

ASSOCIATION: Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii AN SSSR (Institute of the Geology of Ore Deposits, of Petrography, Mineralogy and Geochemistry, AS USSR) Gosudarstvennyy institut stekla (State Institute of Glass)

1. Ceramic materials--Processing 2. Ceramic materials--USSR

Card 3/3

SOV/20-122-2-

AUTHORS: Budnikov, P. P., Corresponding Member, Academy of Sciences, USSR, Polinkovskaya, A. I.

TITLE: Investigation of Volcanic Water-Containing Glasses and of Their **Bulging** Products (Issledovaniye vulkanicheskikh vodusoderzhashchikh stekol i produktov ikh vspuchivaniya)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 122, Nr 2, pp 289-292 (USSR)

ABSTRACT: In recent years the problem of light porous materials has gained more and more importance in the field of engineering and political economy. Among the natural materials which can be used for the manufacture of products of little weight, the kinds of glass mentioned in the title: Obsidians, pitchstones, and pearlites are bound to gain great importance. Such deposits are extensive in the USSR. A short survey of publications (Refs 1-7) is given. The volcanic water-containing rocks increase their volume considerably at the burning at high temperatures. Their structure becomes pumiceous and they may serve as fillers of heat-isolating and light concretes, further as thermo- and sound-isolating coatings. The present investigations

Card 1/2

Investigation of Volcanic Water-Containing Glasses and of ... Bulging ...ucts

deal with the pearlite-rocks of some deposits in the Pacific Region (Primorskiy kray), which were explored by the Primorskoye geologicheskoye upravleniye (Pacific Geological Administration): Bogopol'skoye ..., District of Kavalerovskiy, then the Malozovetskiy section of the ... Deposit, District of Partizanskiy. Tables 1 and 2 show the chemical composition and the properties of some samples. A porphyry structure characterizes the Bogopol'skiye pearlites (microanalysis carried out by N. I. Mamuylova). Quartz, plagioclase, potassium-feldspar, and some other minerals are inseminated in their vitreous mass (Fig 1a). The Malozovetskiy pearlite has a pearlite-fluidal structure. It differs from other samples by the presence of a number of spherulite-like inseminations of a certain mineral with a rather high double refraction. In this case feldspar, i.e. kinds of orthoclase and plagioclase, is inseminated. The pearlite rocks contain water, which is removed at certain intervals. Table 2 shows the endothermic and exothermic effects at heating between 100 and

Card 2/... 900°. Under normal pressure and in damp surroundings part of

Investigation of Volcanic Water-Containing Glasses and of Their Bulging Products

the lost water is absorbed again by pearlite. At heating up to 1000° the pearlite looses its hygroscopicity, and its water content amounts only to 0,034 per cent (Tab 3). This proves that the water in pearlite is bound in different ways. This corresponds to the data in the infrared part of the spectrum (Ref 8). Finally the procedure of a bulded pearlite, chemical analyses and its microstructure are discussed (Fig 1v). There are 4 figures, 2 tables, and 8 references, 5 of which are Soviet.

ASSOCIATION: Moskovskiy institut mestnykh stroitel'nykh materialov (Moscow Institute for Local Building Materials)

SUBMITTED: March 12, 1958

S/081/61/000/024/059/086
B149/B102

AUTHORS: Polinkovskaya, A. I., Petrikhina, G. A., Spivak, N. Ya.

TITLE: Hollow ceramic aggregate for light concretes

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 24, 1961, 368, abstract 24K350 (Sb. tr. Resp. n.-i. in-ta mestnykh stroit. materialov (RSFSR), no. 16, 1959, 76 - 89)

TEXT: A description is given of the manufacturing technology of the hollow ceramic aggregate for light concretes, based on clayey raw materials of I and II plasticity class. The study of the influence of aggregate shapes on concrete's volume weight showed that the minimum volume weight and maximum percentage of voids occur when the aggregate is in tetrahedron shape. With the use of hollow ceramic aggregate it is possible to produce heat-insulating concrete with large pores having volume weights of 515 - 750 kg/m^3, and a strength of 26 kg/cm^2. [Abstracter's note: Complete translation.]

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BUDNIKOV, P.P., akademik; POLINKOVSKAYA, A.I., kand.tekhn.nauk

Using perlites in making lightweight aggregates. Stroi.mat. 5 no.3:7-11 Mr '59. (MIRA 12:5)

1. AN USSR, chlen-korrespondent AN SSSR (for Budnikov).
(Perlite (Mineral)) (Lightweight concrete)

BUDNIKOV, P.P., akademik; POLINKOVSKAYA, A.I., kand.tekhn.nauk;
BENUNI, A.A., inzh.; PETRIKHINA, G.A., inzh.

Expanding clays and volcanic rocks in the fluidized bed.
Stroi.mat. 5 no.9:31-33 S '59. (MIRA 12:12)

1. AN USSR, chlen-korrespondent AN SSSR (for Budnikov).
(Building materials) (Fluidization)

MANUYLOVA, N.S.; NASEDKIN, V.V.; PETROV, V.P.; POLINKOVSKAYA, A.I.

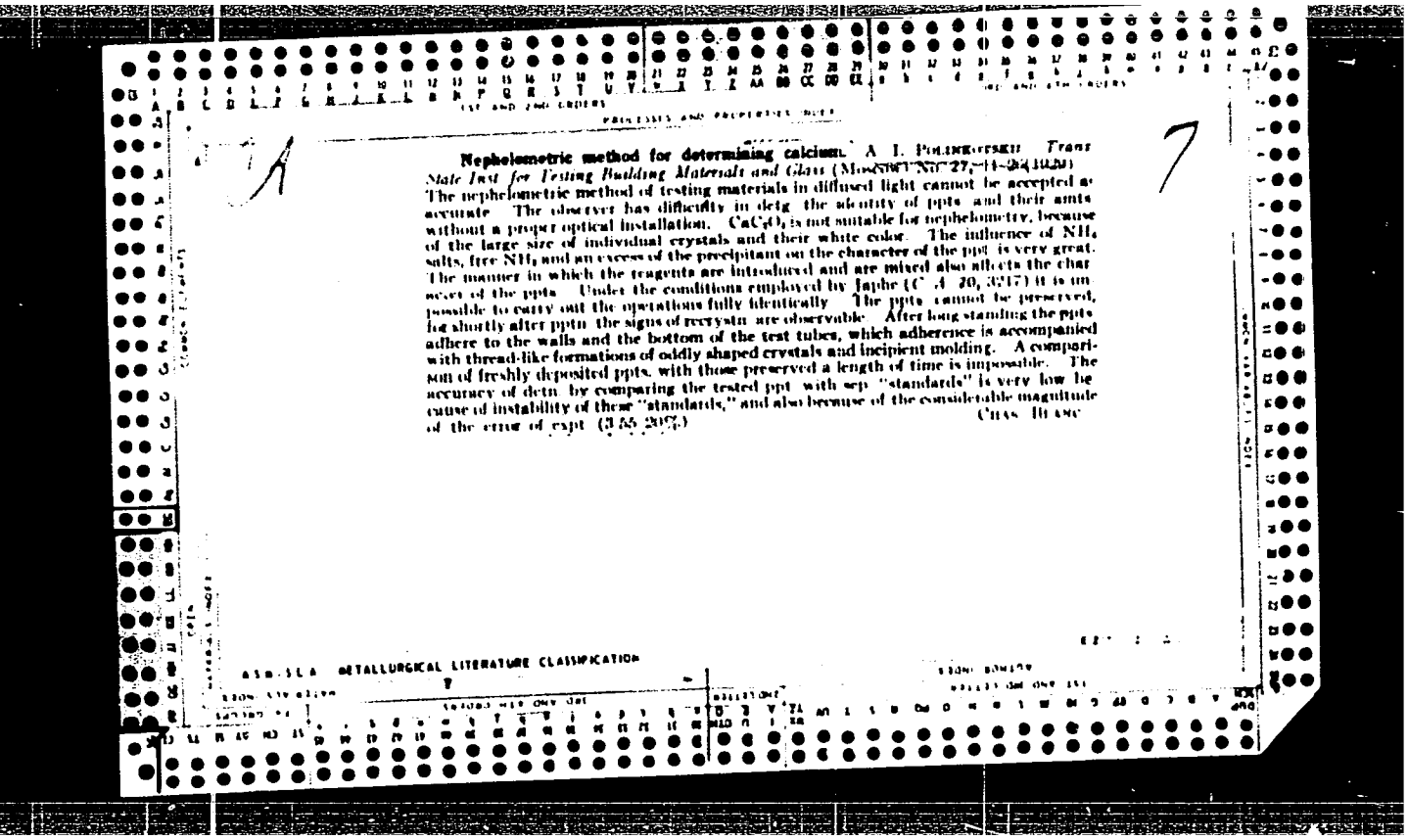
Petrography and practical importance of perlites from the Mukhor-Tala deposit (Buryat A.S.S.R.). Trudy IGEM no.48:17-26 '61. (MIRA 15:1)

(Mukhor-Tala region--Perlite (Mineral))

BUDNIKOV, P.P.; ZHUKOV, A.V.; KAMENETSKIY, S.P.; POLINKOVSKAYA, A.I.; STRIZHEVSKIY, M.V.

Light and superlight articles based on perlite are introduced into mass construction. Stroi.mat. 7 no.8:8-15 Ag '61. (MIRA 14:8)

(Perlite (Mineral)) (Lightweight concrete)
(Precast concrete construction)



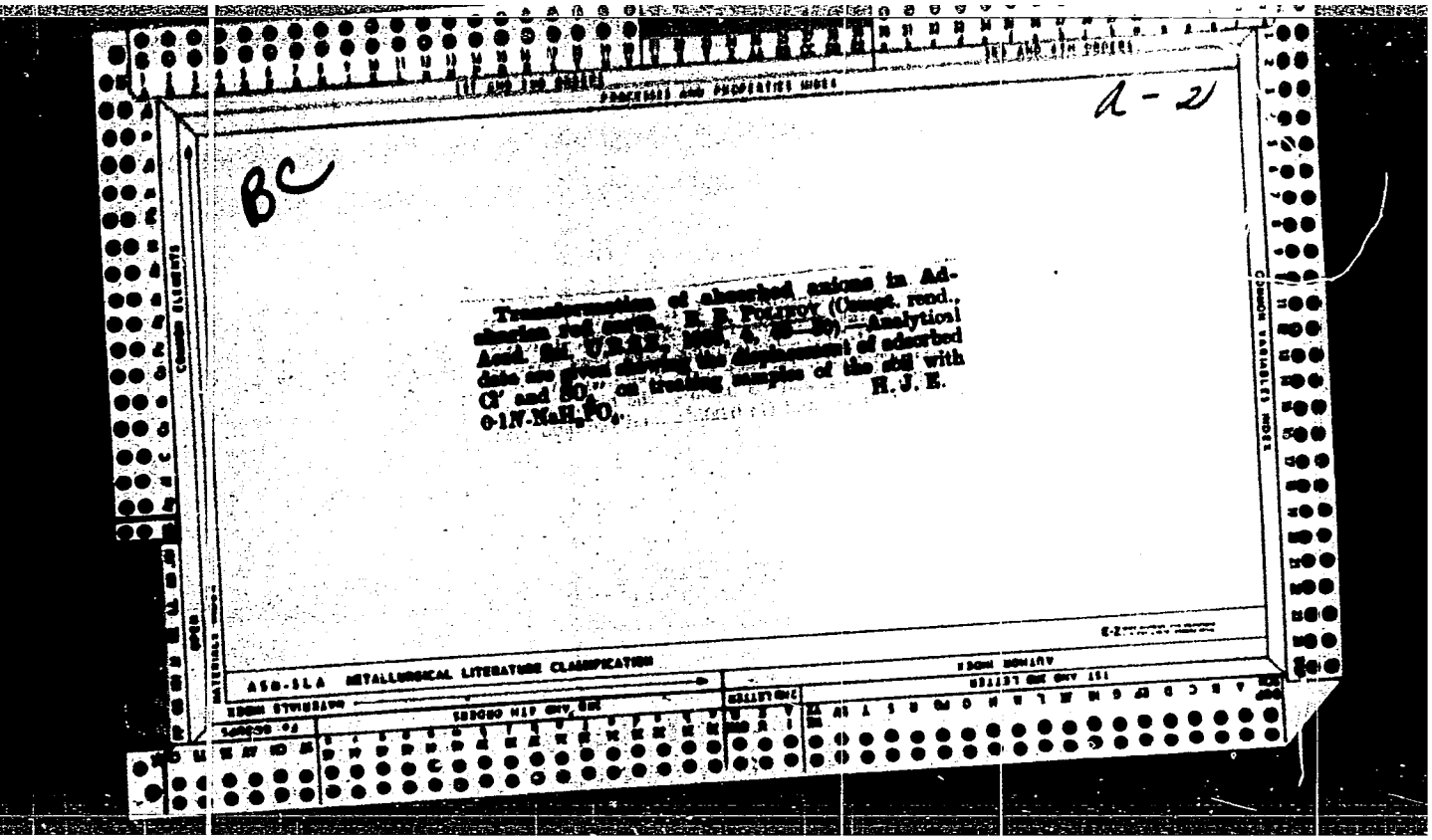
Nephelometric method for determining calcium. A. I. Polikarpov. *Trans. State Inst. for Testing Building Materials and Glass* (Moscow) No. 27, 41–94 (1929).
The nephelometric method of testing materials in diffused light cannot be accepted as accurate. The observer has difficulty in detg. the identity of ppts. and their amts. without a proper optical installation. CaC_2O_4 is not suitable for nephelometry, because of the large size of individual crystals and their white color. The influence of NH_4 salts, free NH_3 and an excess of the precipitant on the character of the ppt. is very great. The manner in which the reagents are introduced and are mixed also affects the character of the ppts. Under the conditions employed by Jaghe (C. A. 20, 3217) it is impossible to carry out the operations fully identically. The ppts. cannot be preserved, for shortly after pptn. the signs of recrystn. are observable. After long standing the ppts. adhere to the walls and the bottom of the test tubes, which adherence is accompanied with thread-like formations of oddly shaped crystals and incipient molding. A comparison of freshly deposited ppts. with those preserved a length of time is impossible. The accuracy of detn. by comparing the tested ppt. with sep. "standards" is very low because of instability of these "standards," and also because of the considerable magnitude of the error of expt. (3 55 207.)
Chas. Blanc

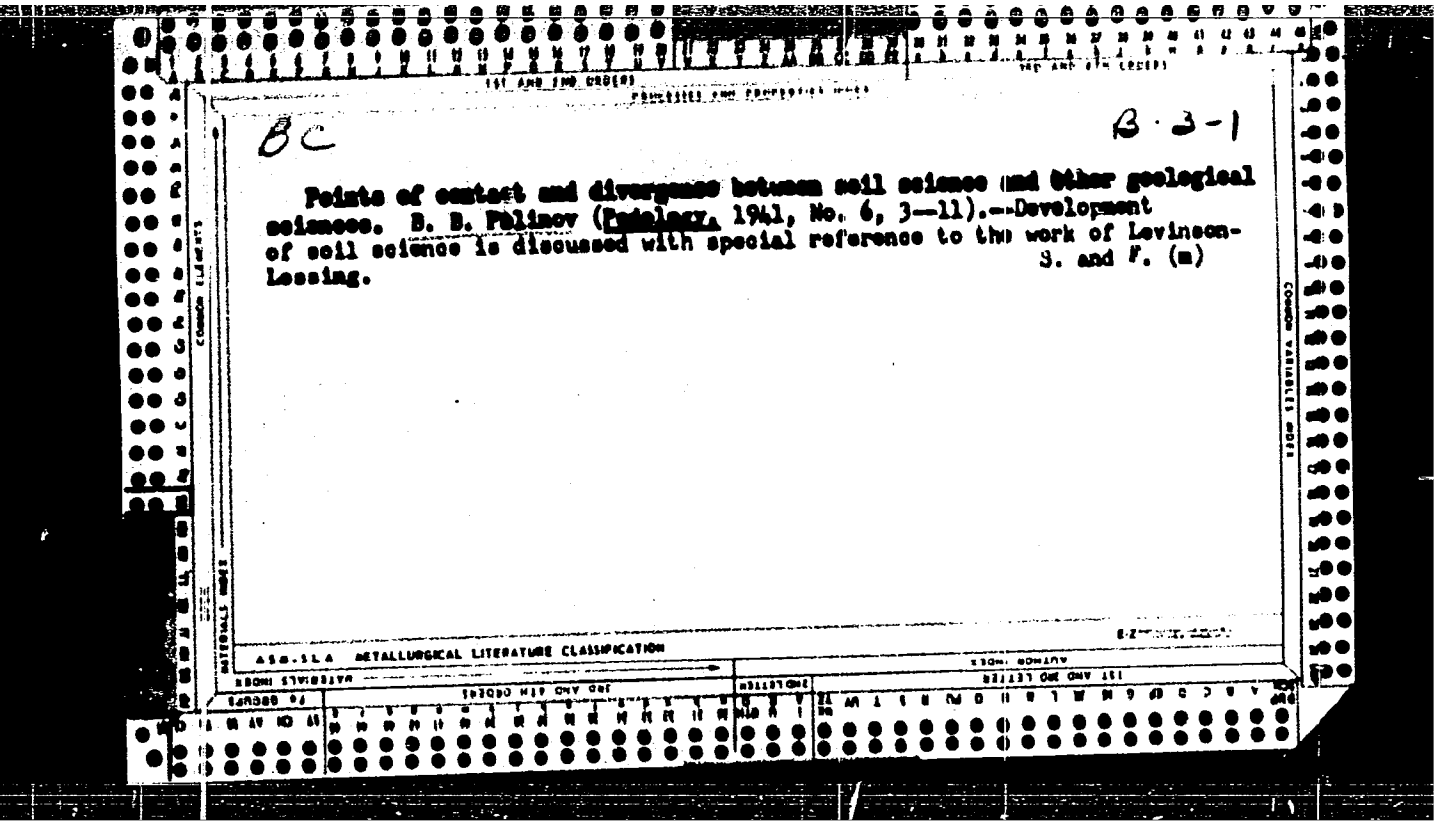
POLIN, A. N.; SILAYEV, A. B.; STEPANOV, V. M.

"Relation between chemical structure and biological activity of Gramicidin's derivatives."

report submitted for Antibiotics Cong, Prague, 15-19 Jun 64.

Univ of Moscow.





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B-3-1

Points of contact and divergence between soil science and other geological sciences. B. B. Polinov (Pedology, 1941, No. 6, 3—11).—Development of soil science is discussed with special reference to the work of Levinson-Lessing. S. and F. (m)

ZAKHIDOV, A.Z.; POLINOV, S.A.

Covering peak loads in the unified Central Asian electric power system. Izv. AN Uz. SSR. Ser. tekh. nauk 7 no.4:77-80 '63.
(MIRA 16:11)

POLINOV, S. A.

Cand Tech Sci - (diss) "Problems of the power-economics calculations for conditions of electric pump irrigation." Tashkent, 1961. 23 pp; (Academy of Sciences Uzbek SSR, Inst of Water Problems and Hydraulics); 170 copies; price not given; (KL, 6-61 sup, 223)